

IN THE CLAIMS

Claims 1-9 (canceled)

10. (currently amended) A batch process for producing chemical pulp from lignocellulose-containing material by means of alkaline cooking, comprising the steps of:

a) charging said lignocellulose-containing material to a digester;

b) initially treating said lignocellulose-containing material with an impregnation liquor to produce an impregnated lignocellulose-containing material;

c) treating said impregnated lignocellulose-containing material with hot liquor so as to produce a heated lignocellulose-containing material, and displacing calcium-containing spent liquor from said digester during said treatment; removing said calcium-containing spent liquor from said digester; and storing said calcium-containing spent liquor in a storage unit;

d) allowing said lignocellulose-containing material to continue being treated while said calcium-containing spent liquor is stored in said storage unit;

e) heating and cooking said heated lignocellulose-containing material at predetermined cooking temperatures and pressures so as to produce cooked lignocellulose-containing material and cooking liquor; and

f) reintroducing said calcium-containing spent liquor in said storage unit back into said digester so as to displaceing said cooking liquor from said digester using at least a portion of said displaced calcium-containing spent liquor being reintroduced into said digester.

11. (previously presented) The method according to claim 10, including collecting said displaced calcium-containing spent liquor from said digester in a first portion having a

first calcium content and at least one second portion having a second calcium content, said at least one second portion having a lower calcium content, on a dry solids basis, than said first portion.

12. (previously presented) The method according to claim 11, including combining said at least one second portion of said calcium-containing spent liquor with a portion of said displaced cooking liquor to produce a combined liquor, and supplying said combined liquor to a subsequent batch of said lignocellulose-containing material to supply heat thereto.

13. (previously presented) The method according to claim 11, including displacing said cooking liquor from said digester using said first portion of said displaced calcium-containing spent liquor.

14. (previously presented) The method according to claim 13, wherein said displacing of said cooking liquor from said digester using said first portion of said displaced calcium-containing spent liquor comprises the first portion of liquor introduced into said digester for displacing said cooking liquor therefrom.

15. (previously presented) The method according to claim 11, including displacing said cooking liquor from said digester using said at least one second portion of said calcium-containing spent liquor.

16. (previously presented) The method according to claim 10, including monitoring the calcium content, on a dry solids basis, of said calcium-containing spent liquor during its displacement.

17. (previously presented) The method according to claim 10, including monitoring the temperature of said calcium-containing spent liquor during its displacement.

18. (new) The method according to claim 10, further including monitoring a calcium content of said

calcium-containing spent liquor in said storage unit and controlling a flow of said calcium-containing spent liquor based on said calcium content.